

WHAT IS CLAIMED IS:

1. Rubber mixtures comprising a rubber and 1 to 300 parts by wt., with respect to 100 parts by wt. of rubber, of a polyurea filler with a particle size of 0.001 to 500  $\mu\text{m}$  and optionally, further rubber auxiliary substances and cross-linking agents.
2. Rubber mixtures according to Claim 1, wherein the rubber mixtures contain 5 to 150 parts by wt. of polyurea filler, with respect to 100 parts by wt. of rubber.
3. Rubber mixtures according to Claim 1, wherein said particle size is from 0.001 to 100  $\mu\text{m}$ .
4. Rubber mixtures according to Claim 1, wherein said particle size is from 0.001 to 20  $\mu\text{m}$ .
5. A process for preparing polyurea-filled rubber mixtures comprising a rubber and 1 to 300 parts by wt., with respect to 100 parts by wt. of rubber, of a polyurea filler with a particle size of 0.001 to 500  $\mu\text{m}$  and optionally, further rubber auxiliary substances and cross-linking agents, comprising the steps of reacting a polyisocyanate with a polyamine and/or water at temperatures of -50 to 250°C in a solvent with precipitation of the polyurea, and adding a solution of a rubber to the polyurea obtained and removing the solvent.
6. A process according to Claim 5, wherein the polyisocyanate is reacted with the polyamine in a solution of the rubber or in an emulsion of the rubber solution and water.
7. A process according to Claim 5, wherein the relative amounts of polyisocyanate used to polyamine used is 0.7 to 1.3 mol of isocyanate groups per mol of amine groups and the water is optionally used in large excess.
8. A molded item comprising rubber mixtures comprising a rubber and 1 to 300 parts by wt., with respect to 100 parts by wt. of rubber,

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9. A molded item according to Claim 8, wherein said molded item is an industrial rubber article or tire.
10. A vulcanizate comprising a rubber and 1 to 300 parts by wt., with respect to 100 parts by wt. of rubber, of a polyurea filler with a particle size of 0.001 to 500  $\mu\text{m}$  and optionally, further rubber auxiliary substances and cross-linking agents.
11. A vulcanizate according to Claim 10, wherein said vulcanizate is an industrial rubber article or tire.